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G.E. EHRLICH (1995) LTD.  
c/o ANTHONY CASTORINA  
SUITE 207  
2001 JEFFERSON DAVIS HIGHWAY  
ARLINGTON, VA 22202

EXAMINER

HAILU, TADESSE

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/887,040

Applicant(s)

ELBER ET AL.

Examiner

Tadesse Hailu

Art Unit

2173

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

DETAILED ACTION

1. This Office Action is in response to the Amendment submitted/entered with filing of RCE on March 21, 2005.
2. The present patent application claims priority from domestic US Application 60/233,487 filed September 19, 2000.
3. The pending claims 1-8, and 10-47 are examined herein as follows:

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 1-8, 10-39, and 46-47 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. They are not directed to a practical application. The claims simply manipulate abstract ideas and they are also outside the four statutory categories of invention.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8, 10-24, 27-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadh et al (US 6,629,065 B1) In view of Vrobel et al (US Pat No. 6,781,597).

With regard to claim 1:

Gadh illustrates (see fig. 25A-D) and discloses (column 24, lines 6-63) a virtual object (such as block b2 or b3 of fig. 25A-D) for use in a virtual environment (such as block b1 of fig. 25A-D) the virtual object comprising at least a visible appearance element (see b2 or b3 of fig. 25A-D), and an internal coordinate system supporting positional commands in relation to said virtual object, said commands being for automatic, command based (see the local coordinate at b2 or b3 of fig. 25A-D, column 20, lines 18-38, column 24, lines 6-32) positioning within said virtual environment with respect to said virtual object.” (See Gadh, Figs. 25A-25D; also see column 23, lines 45-column 24, and lines 63).

However, Gadh does not describe default docking position or location or as recited in the claim. Gadh fails to disclose a docking position being defined for at least one of another object and another object type as a default location when said another object is brought into association with said virtual object. Vrobel on the other hand discloses a computer program that manipulates virtual objects, such as solid shapes including SmartSnap operation . e.g., for alignment purposes. That is, dragging and dropping the virtual object at default docking geometric coordinate location (Vrobel, column 19, lines 43-column 20, lines 52).

Vrobel and Gadh are analogous art because they are from the same field of endeavor, manipulating a solid shape (3D).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the placement or positioning of objects of Gadh’ with default docking or positioning of a selected object of Vrobel because users can quickly adjust or align the position of the underlying geometry without having to enter a two dimensional editing mode (alignment).

Therefore, it would have been obvious to combine Vrobel with Gadh to obtain the invention as specified in claim 1.

With regard to claim 2:

Gadh in view of Vrobel also illustrates (see Gadh, Figs. 25A-25D) and describes (column 24, lines 6-63) that the local (internal) coordinate system includes unit lengths defined in terms of dimensions of a bounding shape of said virtual object.

With regard to claim 3:

Gadh in view of Vrobel also illustrates (see Gadh, Figs. 25A-25D) and discloses (column 24, lines 6-63) that the internal co-ordinate system is shown as a Cartesian coordinate system (see Gadh, Figs. 25A-25D).

With regard to claim 4:

Gadh in view of Vrobel also describes (column 24, lines 6-32) and illustrates (Figs. 25A-25D) that said bounding shape has a width, a height and a depth, and said internal coordinate system that includes axes having a fixed direction with respect to directions of said width, height and depth.

With regard to claim 5:

Gadh in view of Vrobel further describes (column 23, lines 45-column 24, lines 63) and illustrates (Figs. 23, 24A-24D, and 25A-D) movable to positions, in said virtual environment, expressible in terms of said width, said height and said depth.

With regard to claim 6:

Gadh in view of Vrobel further describes (column 24, lines 6-32) that the expressions of said locations includes natural language description for each direction.

With regard to claim 7:

Gadh in view of Vrobel further describes (column 24, lines 6-32) that said natural language descriptions are selected from a group of natural language direction command comprising left, right, rear, top, bottom, etc.

With regard to claim 8:

Gadh in view of Vrobel further describes that a virtual object such as b2 or b3 of figs. 25A-D is arrange able in terms of said natural language direction commands (column 24, lines 6-32).

With regard to claim 10:

Gadh in view of Vrobel further illustrates (Figs. 24A-D, 25A-D) and describes (column 23, lines 45-column 24, lines 63). As shown in said Figs., the virtual object (b3) is positioned on top of another virtual object (b2) within the virtual environment (b1). User can relocate or reposition a virtual object as he/she prefers.

With regard to claim 11:

Gadh in view of Vrobel further describes (column 24, lines 6-32) said virtual object and said other virtual object are logically displayed according to positioning logic associated with said virtual environment.

With regard to claim 12:

Gadh in view of Vrobel further describes (column 24, lines 6-63) and illustrates (Figs. 24A-D, 25A-D) that a designated location associated therewith is compatible with an unrestricted range of objects (such as virtual objects b2 and b3).

With regard to claim 13:

As described above, Gadh in view of Vrobel further describes (column 23, lines 45-column 24, lines 63) said designated position associated therewith for selective positioning of a second object thereat is selectively compatible with a subset of objects.

With regard to claims 14

Independent claim 14 is rejected for at least the same reasons given to independent claim 1.

With regard to claims 15:

Gadh in view of Vrobel describes (column 23, lines 45-column 24, lines 63) a virtual environment for user interaction (Figs. 24A-D, 25A-D), comprising at least a first virtual object (e.g., b3) and a second virtual object (e.g., b2) and at least a relationship between them (positioning relationship, i.e., b3 on top of b2), wherein said relationship is selectable to specify, using a positioning language command (column 24, lines 6-32), an action of said second object.

With regard to claim 40:

Gadh in view of Vrobel illustrates and describes a method for moving a first virtual object (Fig. 25A-D, child node, b3 or b2) from a first position (Fig. 25A) to a selected second position (Fig. 25B-D) associated with a second virtual object (Fig. 25A-D, parent node, b1), within a virtual environment, each virtual object being approximated by a bounding box (Fig. 25A-D) and having an internal co-ordinate system (Fig. 25A-D), the method comprising: selecting said first object, defining a move of said first object into proximity of said second object using said first object internal co-ordinate system, and a positioning command in a positioning language (column 24, lines 6-32). Gadh also discloses operatively associating said first object with said second object (see Fig. 25a-d, b3 on top of b2, and b2 is on top of b1), and

positioning said first object (b3 or b2) with respect to said second object (b1) in terms of said internal co-ordinate system (column 23, lines 45-column 24, lines 63).

However, Gadh does not describe default docking position or location or as recited in the claim. Gadh fails to disclose a docking position being defined for at least one of another object and another object type as a default location when said another object is brought into association with said virtual object. Vrobel on the other hand discloses a computer program that manipulates virtual objects, such as solid shapes including SmartSnap operation . e.g., for alignment purposes. That is, dragging and dropping the virtual object at default docking geometric coordinate location (Vrobel, column 19, lines 43-column 20, lines 52).

Vrobel and Gadh are analogous art because they are from the same field of endeavor, manipulating a solid shape (3D).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the placement or positioning of objects of Gadh with default docking or positioning of a selected object of Vrobel because users can quickly adjust or align the position of the underlying geometry without having to enter a two dimensional editing mode (alignment).

Therefore, it would have been obvious to combine Vrobel with Gadh to obtain the invention as specified in claim 40.

With regard to claim 41:

Gadh in view of Vrobel describes automatically adjusting positioning of said first object with respect to said second object so that said first object and said second object are logically displayed (column 27, lines 12-19, column 24, lines 6-32).

With regard to claim 43:



Gadh in view of Vrobel illustrates and describes a method for constructing a menu of available and permitted user interactions with a first object having at least one user definable relationship within a virtual environment, said method comprising: constructing a list of a priori user interactions characteristic of said first object, adapting said list of user interactions by addition of a further list of optional interactions that characterize the at least one user definable relationship to provide said menu, thereby to create a series of available positioning commands for said first object (Figs. 4, 5A-C, column 18, lines 14-67, column 24, lines 6-32).

However, Gadh fails to disclose default relative positioning between two virtual objects. Vrobel on the other hand discloses a computer program that manipulates virtual objects, such as solid shapes including SmartSnap operation . e.g., for alignment purposes. That is, dragging and dropping the virtual object at default docking geometric coordinate location (Vrobel, column 19, lines 43-column 20, lines 52).

Vrobel and Gadh are analogous art because they are from the same field of endeavor, manipulating a solid shape (3D).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the placement or positioning of objects of Gadh with default docking or positioning of a selected object of Vrobel because users can quickly adjust or align the position of the underlying geometry without having to enter a two dimensional editing mode (alignment).

Therefore, it would have been obvious to combine Vrobel with Gadh to obtain the invention as specified in claim 43.

With regard to claim 44:

Gadh in view of Vrobel describes a method for constructing a menu of available and permitted user interactions with a first object having at least one user definable relationship within a virtual environment, said method further comprising displaying said menu to user (Figs. 4, 5A-C, column 18, lines 14-67, column 24, lines 6-32).

With regard to claim 45:

Gadh in view of Vrobel further describes that said menu is displayable by locating a cursor over said virtual object (Figs. 4, 5A-C, column 18, lines 14-67, column 24, lines 6-32).

With regard to claim 46:

Gadh in view of Vrobel describes a virtual object having an associated menu of available interactions (Fig. 4) with other objects, said object having dynamically changeable states, said menu being changeable dynamically in accordance with changes of available interactions consequent upon said changes in state (Figs. 4, 5A-C, column 18, lines 14-67, also column 24, lines 6-32). However, Gadh fails to teach at least default association position and surrounding object selected by default as recited in claim 46. Vrobel on the other hand discloses a computer program that manipulates virtual objects, such as solid shapes including SmartSnap operation . e.g., for alignment purposes. That is, dragging and dropping the virtual object at default docking geometric coordinate location (Vrobel, column 19, lines 43-column 20, lines 52).

Vrobel and Gadh are analogous art because they are from the same field of endeavor, manipulating a solid shape (3D).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the placement or positioning of objects of Gadh with default docking or

positioning of a selected object of Vrobel because users can quickly adjust or align the position of the underlying geometry without having to enter a two dimensional editing mode (alignment).

Therefore, it would have been obvious to combine Vrobel with Gadh to obtain the invention as specified in claim 46.

With regard to claim 47:

Gadh in view of Vrobel further describes said states are selected from appearance states, position states, and function states (column 18, lines 14-67, column 24, lines 6-32).

With regard to claim 16:

As describes above Gadh in view of Vrobel illustrates a three dimensional virtual environment (Figs. 24A-D, 25A-D) comprises at least one three dimensional virtual object (b3 or b2, Fig. 25) and having a series of potential relationships (e.g., b3 on top of b2, Fig. 25), for interaction wherewith in said virtual three dimensional environment via positioning commands of a positional language (column 24, lines 6-32).

Gadh in view of Vrobel also illustrates (Fig. 4) and discloses (column 17, lines 27- column 18, lines 10) user interaction tool, a virtual locator, a hand held pointer with one or more buttons, and its real-world orientation is represented on a display as a line extending from a virtual hand (as illustrated in Figs. 4a-4c. Gadh in view of Vrobel further disclose that when a cursor points to a size box handle selectable menu items are displayed as a tooltip (e.g., Figs. 15, 21, 23, and 26).

But Gadh fails to disclose a default relative position, selected according to at least one of said relating other object and a type of sad relating other object.

Vrobel and Gadh are analogous art because they are from the same field of endeavor, manipulating a solid shape (3D).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the drag and drop mechanism or positioning of objects of Gadh with default relative positioning of Vrobel because users can quickly adjust or align the position of the underlying geometry without having to enter a two dimensional editing mode (alignment).

Therefore, it would have been obvious to combine Vrobel with Gadh to obtain the invention as specified in claim 16.

With regard to claim 17:

Gadh in view of Vrobel illustrates (Gadh, Figs. 25A-D) and describes (column 24, lines 6-63) a virtual object having a bounding shape, wherein said bounding shape has a width, a height and a depth, and said internal coordinate system comprises axes having a fixed direction with respect to directions of said width, height and depth.

With regard to claim 18:

Gadh in view of Vrobel describes selecting one of the options from said tooltip (see Vrobel, Figs. 15, and 21).

With regard to claim 19:

Gadh in view of Vrobel discloses that said tooltip is displayable automatically upon a cursor passing over said virtual object (see Vrobel, Figs. 15, and 21, column 19, lines 43-column 20, lines 26).

With regard to claim 20:

Gadh in view of Vrobelt describes a potential relationships are associated with parts of said object for display with said tooltip upon selection of said object part (Figs. 23, 26, column 24, lines 20-58) .

With regard to claim 21:

As described above, Gadh in view of Vrobelt describes a relationship, such as a positioning relationship, i.e., b3 on top of b2 (see Gadh, figs. 25A-D) in said environment.

With regard to claim 22:

Gadh in view of Vrobelt describes that the relationship is a positioning relationship via predetermined preferential location associated with said second virtual object (Vrobelt, see default snap location, column 19, lines 43-column 20, lines 52).

With regard to claim 23:

Gadh in view of Vrobelt illustrates (Figs 25A-D) a predetermined preferential location such as placing one virtual object on top of another virtual object and accepting editing (such as relocating) the predetermined types of objects (column 23, lines 45-column 24, lines 63).

With regard to claim 24:

Gadh in view of Vrobelt illustrates sharing or accessing a common virtual object through the network users (column 7, lines 5-10).

With regard to claim 27:

Gadh in view of Vrobelt illustrates (Figs. 25A-D) and describes (column 23, lines 45-column 24, lines 63) that said first object comprises at least a visible appearance element, and an internal coordinate system.

With regard to claim 28:

Gadh in view of Vrobelt illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that the associated coordinate system is a Cartesian coordinate system.

With regard to claim 29:

Gadh in view of Vrobelt illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said virtual object further comprises a bounding shape having a width, a height and a depth, and said associated coordinate system has axes having a fixed direction with respect to directions of said width, height and depth.

With regard to claim 30:

Gadh in view of Vrobelt illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that locations in the vicinity of said object, are expressible in terms of said width, said height and said depth.

With regard to claim 31:

Gadh in view of Vrobelt illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said expressions of said locations comprise units for each direction with respect to a corresponding dimension of said boundary box.

With regard to claim 32:

Gadh in view of Vrobelt illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said expressions of said locations comprise natural language descriptions for each direction.

With regard to claim 33:

Gadh in view of Vrobelt illustrates (Figs. 25A-D) and describes (column 24, lines 6-63) that said natural language descriptions are selected from a group comprising left, right, up, bottom, etc.

With regard to claim 34:

Gadh in view of Vrobel illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said location is a preferred position for positioning other objects thereat.

With regard to claim 35:

Gadh in view of Vrobel illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that at least one virtual object is selectable according to a query expressed using said natural language descriptions.

With regard to claim 36:

Gadh in view of Vrobel illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that at least one virtual object is arrange able according to a query expressed using said natural language descriptions.

With regard to claim 37:

Gadh in view of Vrobel illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said first virtual object has a designated location associated therewith for selective positioning of a second object thereat, so that first virtual object and second virtual object are logically displayed according to positioning logic associated with said virtual environment.

With regard to claim 38:

Gadh in view of Vrobel illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said first virtual object has a designated location associated therewith for selective positioning of a second object thereat, where said designated location is compatible with any object.

With regard to claim 39:

Gadh in view of Vrobel illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said designated location associated therewith for selective positioning of a second object thereat is selectively compatible with a subset of objects.

With regard to claim 42:

Gadh in view of Vrobel illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) said automatic adjustment comprises associating said first object with a predetermined position on said second object and repositioning said first object to locate onto said predetermined position.

6. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadh et al (US 6,629,065 B1) in view of Vrobel et al (US Pat No. 6,781,597) and further in view of Thomas A. Funkhouser, "RING: A Client-Server System for Multi-User Virtual Environments," (1995).

With regard to claims 25 and 26:

While Gadh in view of Vrobel describes accessing information over the network users (Gadh, column 7, lines 5-10), however "an interaction by a first user is detectable by at least a second user" is not explicitly shown. Funkhouser discloses a multi-user application sharing, wherein "an interaction by a first user is detectable by at least a second user" as recited in claim 25 is illustrated (Funkhouser, Fig. 4) and described (see sections 3 and 4). The multi-user application further describes (see sections 3 and 4) an interaction by a first user is not detectable by at least a second user as recited in claim 26.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide the network users of Gadh (column 7, lines 5-10) with



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multi-user sharing and controlling capability of Funhouser because this incorporation enables the system of Gadh in view of Vrobel to distribute and share common displays, multimedia conference applications and gaming among participants or collaborators.

Therefore, it would have been obvious to combine Vrobel, Gadh with Funhouser to obtain the invention as specified in claims 25 and 26.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-8, and 10-47 have been considered but are moot in view of the new ground(s) of rejection.

**CONCLUSION**

8. The Examiner would like to remind the Applicant that the pending claims are 1-8, and 10-47 NOT 1-47 as stated in the Remarks of March 21, 2005 paper.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Tadesse Hailu, whose telephone number is (571) 272-4051. The Examiner can normally be reached on M-F from 10:00 - 630 ET. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, John Cabeca, can be reached at (571) 272-4048 Art Unit 2173.

10. An inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Tadesse Hailu  
Art Unit 2173  
March 28, 2005

